Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A device for navigating an instrument in a body volume that is subject to a spontaneous movement ~~that can be described by a movement parameter (E),~~ caused by heartbeats and respiration, the device comprising:

~~a)~~ a locating device for ~~measuring~~ obtaining a location ~~(r)~~ of the instrument, the instrument providing interpolation nodes;

~~b)~~ a sensor ~~device~~ for measuring ~~the~~ a movement parameter ~~(E)~~ describing the spontaneous movement of the body volume; ~~and~~

~~c)~~ ~~a data processing device coupled to the locating device and the sensor device, wherein the data processing device comprises~~ a movement model that describes, with respect to ~~a~~ at least one reference phase ~~(E_0)~~ of the ~~movement parameter~~ heartbeat, a spontaneous movement field or vectorial displacement ~~(Δ)~~ to which interpolation nodes of the body volume are subject ~~in~~ during the ~~various phases of the movement parameter (E), wherein with (i) the aid of~~ at least one reference phase; and

a data processing device coupled to the locating device and the sensor for using the movement model, ~~(ii) a current measured~~ the location ~~(r)~~ and ~~(iii) an associated current~~ the movement parameter~~, the data processing device calculates~~ to calculate an estimated movement-compensated location ~~(r + Δ),~~ corresponding to the ~~current measured~~ location

~~(r) plus~~ and the vectorial displacement ~~(Δ),~~ of the instrument ~~that the instrument would have in~~ during the at least one reference phase ~~(E_0) of the spontaneous movement field~~.

2. (Currently amended) The device as claimed in claim 1, wherein the data processing device ~~is designed to reconstruct~~ reconstructs the movement model ~~from measured values for~~ using the location of interpolation nodes and associated movement parameters ~~(E)~~.

3. (Currently amended) The device as claimed in claim 2, ~~further~~ wherein the data processing device ~~is designed to supplement the measured~~ supplements the movement of the interpolation nodes in the movement model by interpolation.

4. (Currently amended) The device as claimed in claim 2, ~~further~~ wherein the data processing device ~~is designed to determine measured values for~~ determines the location of interpolation nodes from a ~~series~~ plurality of three-dimensional images of the body volume~~, wherein the series of three-dimensional images are~~ obtained from at least one of X-ray, CT and MRI recordings.

5. (Currently amended) The device as claimed in claim 2, wherein ~~the measured values for~~ the location of the interpolation nodes of the body volume correspond to the locations ~~(r),~~ ~~measured~~ obtained with the locating device~~, of the instrument~~.

6. (Currently amended) The device as claimed in claim 5, wherein the ~~measured~~ locations ~~(r) of the instrument~~ are obtained without moving the instrument relative to the body volume.

7. (Currently amended) The device as claimed in claim 1, ~~further~~ wherein the data processing device comprises a memory ~~containing~~ having a static image of the body volume and ~~is designed to determine~~ determines the estimated movement-compensated location ~~(r + Δ), for the reference phase (E_0),~~ of the instrument in the static image during the at least one phase.

8. (Currently amended) The device as claimed in claim 1, wherein the sensor ~~device~~ comprises an ECG apparatus and/or an apparatus for determining the respiration phase.

9. (Currently amended) The device as claimed in claim 1, wherein the locating device ~~is designed to determine~~ determines the location of the instrument ~~with the aid of~~ using magnetic fields and/or ~~with the aid of~~ optical methods.

10. (Currently amended) A method of navigating an instrument in a body volume that is subject to a spontaneous movement ~~that can be described by a movement parameter (E)~~ caused by the heartbeats and the respiration, the method comprising acts of:

~~a)~~ ~~measuring~~ obtaining a location of interpolation nodes of the body volume, the interpolation nodes are provided by the instrument;

~~and associated~~ measuring a movement ~~parameters (E) in different phases of~~ parameter describing the spontaneous movement of the body volume;

~~b) reconstructing a movement model for the body volume from said measured values of the location of interpolation nodes and associated movement parameters, wherein the~~

providing a movement model that describes, with respect to ~~a~~ at least one reference phase ~~(E_0)~~ of the ~~movement parameter~~ heartbeat, a spontaneous movement field or vectorial displacement ~~(Δ)~~ to which interpolation nodes of the body volume are subject ~~in~~ during the ~~various phases~~ at least one reference phase of the ~~movement parameter (E)~~ heartbeat~~;~~

~~c) measuring a location (r) of the instrument and an associated movement parameter (E)~~; and

~~d)~~ ~~calculating, with the aid of (i)~~ using the movement model, ~~(ii) a current measured~~ the location and ~~(iii) an associated current~~ the movement parameter, to calculate an estimated movement-compensated position ~~($r + \Delta$),~~ corresponding to the ~~current measured~~ location ~~(r) plus~~ and the vectorial displacement ~~(Δ),~~ of the instrument ~~in~~ during the at least one reference phase ~~(E_0) of the spontaneous movement field~~.